

Clinical Observations on the Use of a Novel Powder Dressing in the Treatment of Sickle Cell Associated Lower Extremity Wounds

ALISHA OROPALLO, MD^{1,2}; AMIT RAO, MD¹; CHRISTINA DEL PIN, MD^{1,2}; MARISA RANIRE-MAGUIRE, MD^{1,2}; KANE GENSER, MD¹; REGINA MATATOVA, NP¹; AND JULIE ISGRO, NP¹

¹Northwell Health System, Department of Surgery, Comprehensive Wound Care Healing and Hyperbarics, Lake Success, NY 11042

²Donald & Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY 11550

Symposium of Advanced Wound Care | April 26 – 30 | National Harbor, MD

INTRODUCTION

Sickle cell related wounds are notoriously difficult to heal. Challenges involved in treating these wounds typically involve managing pain, addressing vascular insufficiency and reducing inflammation in both the wound and periwound.

We describe the application of a novel, extended wear transforming powder dressing (TPD)* with unique properties to treat sickle cell anemia related wounds.

METHODS

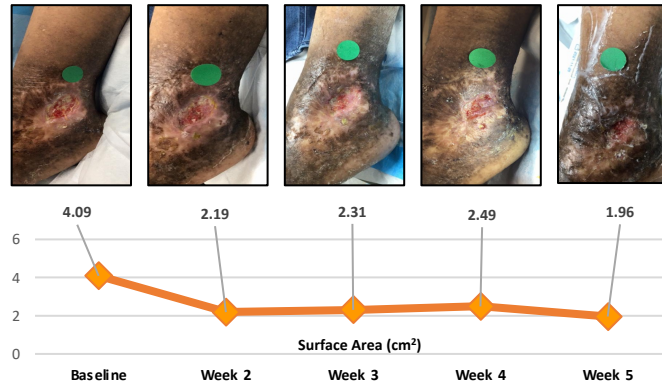
The clinical evidence of TPD has been demonstrated previously for chronic wounds such as venous ulcers and diabetic foot ulcers. In this case series, the treatment regimen of two sickle cell ulcers is reviewed. The wounds were treated with TPD once weekly for four to eight weeks.

For each wound, the powder was applied according to manufacturer's instructions where it transformed upon hydration with saline from a white powder into a translucent, flexible film on the wound bed. The dressing did not overlap onto tissue surrounding the wound. Wound dimensions and patient reported pain was recorded.

RESULTS

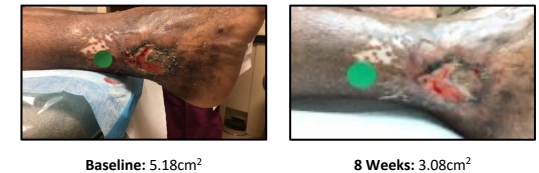
Case 1 (Pictures on Right):

- 30-month-old sickle cell ulcer
- Wound tenure: 30 months
- Prior therapy: Three skin substitute applications (minimal effect)
- Initial wound dimensions: 4.99cm²
- TPD Baseline (December 2022): 4.09cm²
- Week 3 post TPD: 2.19cm² / 46% reduction
- Significant reduction in pain sensation was reported by the patient throughout TPD treatment



Case 2 (Pictures Below):

- Chronic sickle cell ulcer on right leg
- Baseline Dimensions: 5.18cm²
- Week 8 post TPD: 3.08cm² / 32% reduction with sporadic compliance
- Patient reported significant pain reduction



DISCUSSION

The implementation of TPD in treatment of sickle cell wounds showed significant improvement in the healing trajectory in both cases. Pain was also significantly reduced. An extended evaluation would have been helpful to assess final healing outcomes. The potential ability of TPD therapy to make a drastic impact in a short time period on wounds that have remained stagnant for years is groundbreaking.

***Altrazeal® Transforming Powder Dressing.** Acknowledgements: This poster was developed in collaboration with Altrazeal Life Sciences Inc. All clinical assessments were performed independently, and no compensation was paid to the authors. For application instructions and risks of this device please refer to Altrazeal Instructions for Use.